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CLAIMS

1. Apparatus for muscular stimulation of a user, which apparatus comprises a pressure sensor, a control unit to which
5 pressure values sensed by the pressure sensor are fed, and a vibrational stimulator for applying vibrational stimulation to a user, wherein the vibrational stimulator is activated by the control unit in response to the pressure sensor sensing an applied pressure which exceeds a threshold pressure value
10 and wherein the vibrational stimulator can apply vibrational stimulation to a user via a unit which can reciprocally move relative to a user in response to the pressure sensor sensing an applied pressure which exceeds the threshold pressure.
- 15 2. Apparatus according to claim 1 wherein the vibrational stimulator is deactivated when the pressure sensor ceases to sense an applied pressure which exceeds the threshold pressure value.
- 20 3. Apparatus according to claim 1 or 2 which comprises a first set of pressure sensors for detecting pressure applied through the hands of a user, and/or a second set of pressure sensors for detection of pressure applied through the feet of a user.
- 25 4. Apparatus according to claim 3 which comprises both said first and second sets of pressure sensors.
5. Apparatus according to claim 3 or 4 wherein the first set
30 of pressure sensors detects pressure applied to a bar against which a user can push or pull with their hands.
6. Apparatus according to any one of claims 3, 4 or 5

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wherein the second set of pressure sensors detects pressure applied to a plate against which a user can push with their feet.

5 7. Apparatus according to any preceding claim wherein the pressure sensor comprises a strain gauge.

8. Apparatus according to any preceding claim for use by a supine user.

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9. Apparatus according to any preceding claim wherein the control unit comprises a central processing unit.

10. Apparatus according to any preceding claim wherein the control unit allows a user to set the frequency, amplitude and/or direction of vibrations generated by the vibrational stimulator, and/or stores information concerning use of the apparatus by a user.

20 11. Apparatus according to any preceding claim further comprising display means for viewing during use of the apparatus by a user.

12. Apparatus according to any preceding claim which comprises a corresponding number of vibration stimulators and pressure sensors.

13. Apparatus according to claim 12 which comprises a first vibrational stimulator associated with a first set of pressure sensors for detecting pressure applied through the hands of a user, and/or a second vibrational stimulator associated with a second set of pressure sensors for detecting pressure applied through the feet of a user.

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14. Apparatus according to claim 13 wherein the first set of pressure sensors and first vibrational stimulator are associated with a bar against which a user can push or pull with their hands.

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15. Apparatus according to claim 13 or 14 wherein the second set of pressure sensors and second vibrational stimulator are associated with a plate against which a user can push with their feet.

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16. Apparatus according to any preceding claim wherein the vibrational stimulator can deliver vibrational stimulation to a user in a plurality of amplitudes, frequencies and/or directions.

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17. Apparatus according to claim 16 wherein the vibrational stimulator comprises one or more individual vibration engines, which are controlled electronically according to parameters stored by the control unit.

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18. Apparatus according to claim 17 wherein the parameters are manually set by a user prior to use of the apparatus.

19. Apparatus according to any preceding claim which
25 comprises a bar to which a user can apply pressure through their hands, which bar is reciprocally moveable relative to the user.

20. Apparatus according to any preceding claim which
30 comprises a plate to which a user can apply pressure through their feet, which plate is reciprocally moveable.

21. Apparatus according to any preceding claim wherein the

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reciprocal movement is substantially towards and away from a user in the plane of symmetry of the user, laterally in a plane substantially orthogonal to the plane of symmetry of a user, a combination of movements in both of said planes, 5 circular movement in one or both of said planes, or a combination of any of such movements.

22. Apparatus according to any preceding claim wherein the direction(s), speed and/or magnitude of the reciprocal 10 movement may be predetermined by the user via the control unit.

23. Apparatus according to any preceding claim wherein the unit can remain substantially stationary relative to a user. 15

24. A method for operating apparatus as defined in any one of claims 1 to 23, which method comprises the user applying an initial pressure which is sensed by a pressure sensor, recording the initial pressure value sensed by the pressure 20 sensor, and applying vibrational stimulation to the user by a vibrational stimulator in response to the user applying pressure to the pressure sensor which exceeds a threshold pressure value determined by the initial pressure value.

25 25. Apparatus substantially as hereinbefore described with reference to the accompanying drawings.

26. A method substantially as hereinbefore described.

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